

“I Did It My Way”: Moving Away from the Tyranny of Turn-by-Turn Pedestrian Navigation

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or...



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A4201





Coca-Cola
Taste It & You'll Love It

TDK

SANYO

SAMSUNG

New Year, New Beer

GAP

Newsweek

Motivation

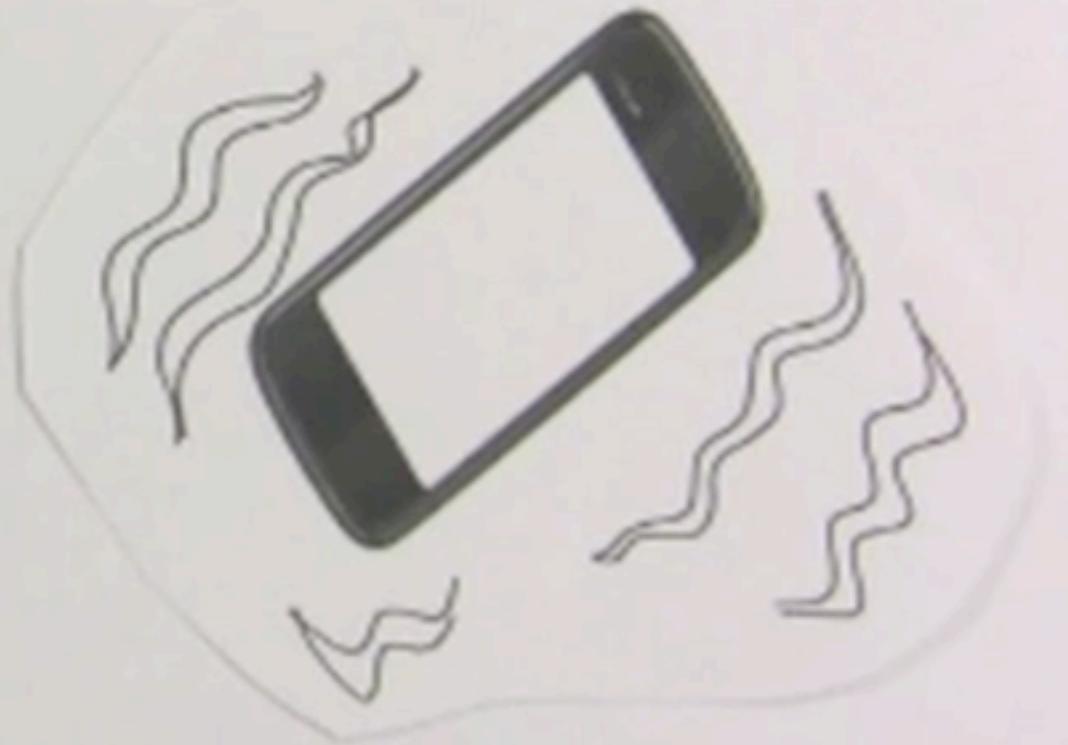


Pedestrian navigation devices:
taking away the fun of
exploring a place?

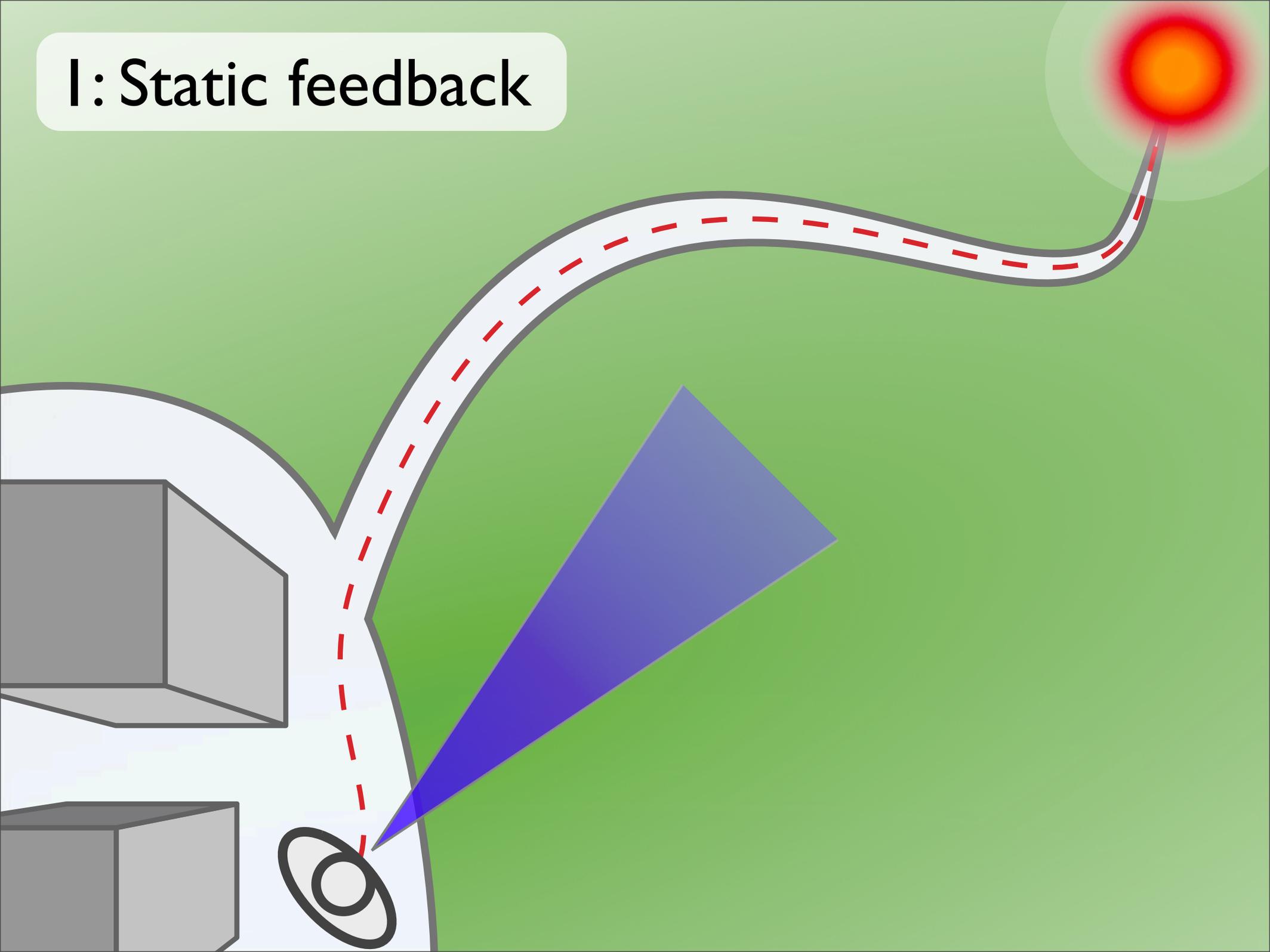
Our approach



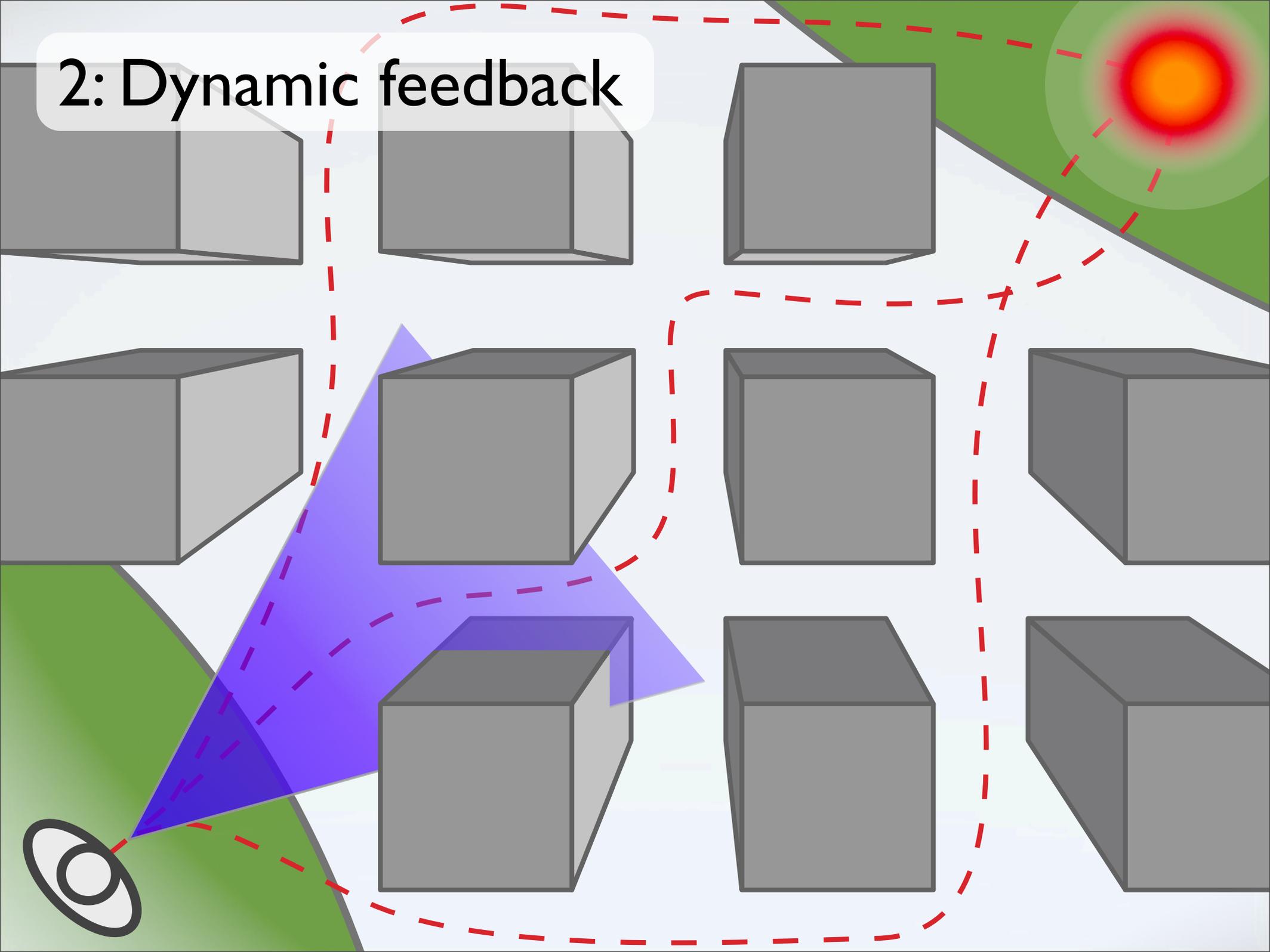
Simple, low-resolution
guidance on-demand



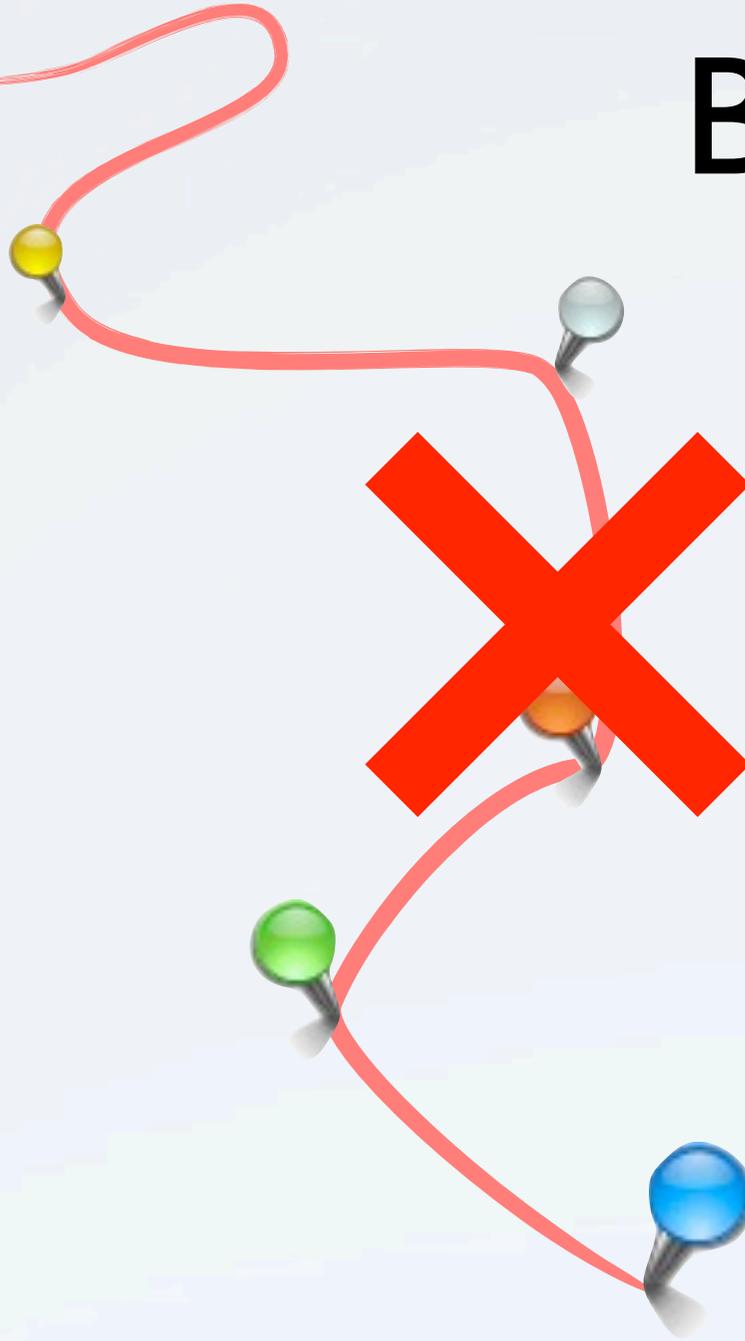
I: Static feedback



2: Dynamic feedback



Benefits

- 
- Encourage immersion in surroundings
 - No waypoints: prompt exploratory navigation

Research questions

- Navigation without waypoints - how well does it work?
- Dynamic feedback - is it worthwhile?

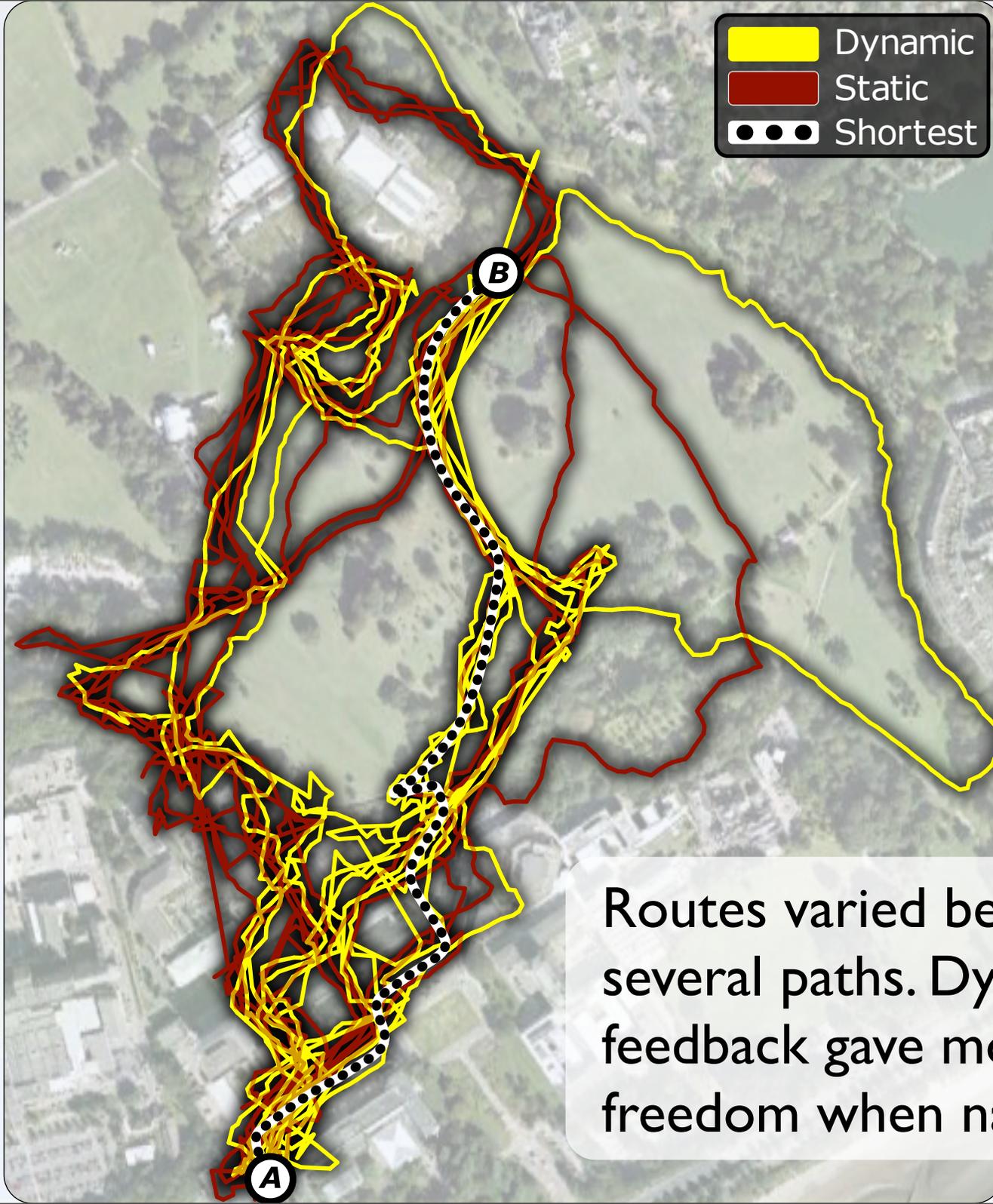
Evaluation

- 24 participants, navigate from A to B
- Shortest possible route approx. 1km
- Observed participants, logged all sensor data
- Looked at navigation success and route variation between systems

Results

- All participants found the destination
- Times and differences not significantly different between feedback types

Measure	Dynamic	Static
Time taken (minutes)	17:24 (sd: 5:25)	19:02 (sd: 5:36)
Distance walked (km)	1.53 (sd: 0.39)	1.65 (sd: 0.58)



Routes varied between several paths. Dynamic feedback gave more freedom when navigating?

Participants' feedback

A photograph of a man with short dark hair and glasses, wearing a light-colored jacket over a dark shirt. He is holding a smartphone in his right hand and looking at the screen. The background is a blurred green forest.

- Enjoyed using the systems; often surprised at effectiveness
- Some still preferred constant positional knowledge

Conclusions

- Low-resolution directional guidance can be effective for real-world pedestrian navigation
- Users can deal with environmental complexities without significant impact on walking behaviour
- Path choice awareness is appreciated - we used haptics; other modalities possible where appropriate

Thank you

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<http://cs.swan.ac.uk/negotiatedinteraction>

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